Manufacturers add preservatives to formulations to control bacterial and fungal growth, extending the shelf life of these products. A number of synthetic preservatives have fallen from favor with regulators and consumers, due to issues like sensitization, and other health related concerns. The result has been a growing demand for proactive, innovative and alternative solutions to synthetic preservatives.

**Active Micro Technologies (AMT)** has focused its efforts on the power of natural compounds, combining cosmetic functionality with antimicrobial activity to develop a range of multi-functional ingredients that can reduce or eliminate the need for conventional preservatives. **AMT** strives to continuously improve and add to its eco-friendly, nature-based product line while also welcoming the opportunity to custom develop alternative products for preservation and natural antimicrobial solutions.

**AMTICIDE® COCONUT (M14003):**

**INCI (approved):** Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract

**Suggested Use Level:** 2.0% - 4.0%

**Suggested Applications:** Moisturizing, Skin & Scalp Conditioning, Antifungal

**Properties:** Intended to be coupled with one of our broad-spectrum antimicrobials, such as Leucidal Liquid, or perhaps any preservative package that is lacking in protection, against yeast and mold. AMTicide® Coconut is developed by fermenting Cocos nucifera (Coconut) fruit with Lactobacillus to deliver a non-irritating and effective multifunctional product. This product can provide moisturizing and conditioning benefits in hair and skin care applications. Additionally, it is effective at preventing the growth of fungus, specifically yeast and mold.

**LEUCIDAL® LIQUID (M15008):**

**INCI (approved):** Leuconostoc/Radish Root Ferment Filtrate

**Suggested Use Level:** 2.0% - 4.0%

**Suggested Applications:** Moisturizing, Skin & Hair Conditioning, Antimicrobial

**Properties:** Derived from Leuconostoc kimchii, the bacterium that has traditionally been used to make fermented Kimchi. This product consists of a peptide that is produced by the bacterial culture during the fermentation process which has been shown to have antimicrobial benefits. This ferment filtrate provides an effective combination of skin conditioning, moisturizing, and antimicrobial properties.

**LEUCIDAL® LIQUID COMPLETE (M15024):**

**INCI (conforms):** Leuconostoc/Radish Root Ferment Filtrate & Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract

**Suggested Use Level:** 2.0% - 4.0%

**Suggested Applications:** Moisturizing, Skin & Scalp Conditioning, Antimicrobial

**Properties:** This product combines the antibacterial power of Leucidal® Liquid and the antifungal power of AMTicide® Coconut to deliver an effective and convenient one step solution for broad spectrum protection! This highly marketable product provides moisturizing and conditioning benefits in hair and skin care applications. Additionally, this product provides effective protection against bacteria and fungi, including yeast and mold.
LEUCIDAL® LIQUID SF (M15019):
INCI (approved): Lactobacillus Ferment
Suggested Use Level: 2.0% - 4.0%
Suggested Applications: Skin Conditioning, Antimicrobial
Properties: A probiotic based ingredient created by the fermentation of Lactobacillus in a defined growth medium. The specific manufacturing process yields a unique peptide with broad spectrum, antimicrobial and conditioning properties. This ferment filtrate is salicylate-free.

LEUCIDAL® SF COMPLETE (M15025):
INCI (conforms): Lactobacillus Ferment & Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract
Suggested Use Level: 2.0% - 4.0%
Suggested Applications: Moisturizing, Skin & Scalp Conditioning, Antimicrobial
Properties: This product combines the antibacterial power of Leucidal® Liquid SF and the antifungal power of AMTicide® Coconut to deliver an effective and convenient, salicylate-free, one step solution for broad spectrum protection! This highly marketable product provides moisturizing and conditioning benefits in hair and skin care applications as well as effective protection against bacteria and fungi, including yeast and mold.

LEUCIDAL® LIQUID PT (M15021):
INCI (applied/ conforms): Lactobacillus Ferment
Suggested Use Level: 2.0%
Suggested Applications: Skin & Hair Conditioning, Antimicrobial
Properties: A broad-spectrum natural antimicrobial agent that compliments current trends for natural cosmetics and peptide technology. Leucidal® Liquid PT is a fermentation product of Lactobacillus in the presence of undecylenic acid, derived from castor oil (a sustainable vegetable resource). The result is a broad-spectrum antimicrobial product with probiotic skin conditioning properties.

PHYTOCIDE BLACK CURRANT POWDER (M16001):
INCI (approved): Ribes Nigrum (Black Currant) Fruit Extract
Suggested Use Level: 1.0% - 3.0%
Suggested Applications: Soothing, Conditioning, Antimicrobial
Properties: A spray dried powder extract of black currant, rich in ellagitannins and anthocyanins, which provide effective antimicrobial and anti-inflammatory benefits.

PHYTOCIDE ASPEN BARK EXTRACT POWDER (M16002):
INCI (approved): Populus Tremuloides Bark Extract
Suggested Use Level: 0.2% - 3.0%
Suggested Applications: Skin Conditioning, Antimicrobial
Properties: A spray dried powder extract rich in natural salicylates, which provide natural antimicrobial activity and can impart a smooth feel to the skin.
**PHYTOCIDE ELDERBERRY OS (M16003):**

**INCI (approved):** Sambucus Nigra Fruit Extract  
**Suggested Use Level:** 1.0% - 5.0%  
**Suggested Applications:** Skin Conditioning, Antimicrobial  
**Properties:** Elderberries are known to be rich in undecylenic acid and flavonoids. This oil-soluble extract provides skin conditioning, antimicrobial and antioxidant benefits. It is ideal for incorporation into oil based formulations.

**SYNERCIDE ASIAN FUSION (M17001):**

**INCI (approved):** Hexylene Glycol & Caprylyl Glycol & Wasabia Japonica Root Extract & Zingiber Officinale (Ginger) Root Extract & Allium Sativum (Garlic) Bulb Extract & Water  
**Suggested Use Level:** 1.0% - 2.0%  
**Suggested Applications:** Skin Hydrating & Conditioning, Antimicrobial  
**Properties:** An aqueous synergistic blend of traditional Asian botanicals with potent anti-aging, skin conditioning and antimicrobial benefits.

**SYNERCIDE HERBAL FUSION (M17002):**

**INCI (approved):** Hexylene Glycol & Caprylyl Glycol & Origanum Vulgare Leaf Extract & Thymus Vulgaris (Thyme) Leaf Extract & Rosmarinus Officinalis (Rosemary) Leaf Extract & Water  
**Suggested Use Level:** 1.0% - 2.0%  
**Suggested Applications:** Skin Hydrating & Conditioning, Antimicrobial  
**Properties:** An aqueous synergistic blend of traditional herbs known for their ability to provide skin conditioning and antimicrobial benefits.

**ARBORCIDE® OC (M15010):**

**INCI (approved):** Leuconostoc Ferment Filtrate  
**Suggested Use Level:** 2.0% - 4.0%  
**Suggested Applications:** Skin Conditioning, Antimicrobial  
**Properties:** Derived from *Leuconostoc kimchii*, the bacterium that has traditionally been used to make fermented Kimchi. This ferment filtrate has shown a wide range of utility as a skin conditioner and antimicrobial agent for cosmetic and personal care product formulations.

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*Whole Foods* is a US based grocery store trying to set a standard for natural personal care products. This denotation only applies to North America.