



biometrics
natural products that work

safe & clean LAUNDRY POWDER

Committed to manufacturing
the *World's Best*
laundry powder

"The high performance laundry powder for a healthier future."



- **NO ZEOLITES**
Zeolites have been documented by Greenpeace to be just as damaging to the environment as phosphates.
- **NO PHOSPHATES**
Phosphates are still used in many of today's detergents. They cause irreparable damage to our waterways.
- **BIO-DEGRADABLE**
All ingredients used in the manufacture of this product are biodegradable to Australian Standard AS4351.1
- **GREY WATER SAFE**
Biometrics manufactures this product to be fully compatible with all greywater systems complying with Australian Standard AS/NZS3500.2
- **NO NASTY ENZYMES**
Enzymes in laundry products have been proven to cause respiratory ailments and are suspected to cause contact dermatitis.
- **HYPO-ALLERGENIC**
All our detergents are free from allergy causing agents including petrochemicals, chlorine, EDTA's, phosphates, nitrates, ammonia, enzymes, optical whiteners, synthetic dyes and perfumes.
- **INGREDIENTS**
Pure layered disilicates, Sodium carbonate, Sodium bicarbonate, Sodium sulphate, Sodium percarbonate, Plant based surfactants, Pure eucalyptus essential oil.



www.biometrics.com.au

'BIOMETICS SAFE AND CLEAN'

"The high performance laundry powder for a healthier future."

RADICALLY DIFFERENT LAUNDRY POWDERS

Biometrics proudly manufactures a unique range of European influenced cleaning and laundry products which are a radical departure from the traditional and 'so called' green or eco products. Using cutting edge technology, the Biometrics Safe & Clean range offers powerful effective laundry and dishwashing products without the environmental and personal hazards associated with the traditional brands. How do they do this? Firstly it is important to know some of the basics of how conventional powders are manufactured.



The major difference between conventional powders and the environmentally friendly ones lies in the ingredient known as the builder. The most common builder is sodium tripolyphosphate (STTP) however as the demand for 'Green' laundry powders grew, some manufacturers turned to the aluminium-based mineral called Zeolite A. Whilst zeolites soften water, they are far less effective than phosphates in almost every way. The traditional production of phosphate free detergents necessitates the inclusion of a number of complex, new chemicals and a complete restructuring of the detergents formula; often with significant increases in other chemical ingredients.

According to Bryn Jones, former director of Greenpeace, consumers are doing the environment no favors when they buy Zeolite based washing powders. Jones investigated the environmental effects of every stage of the manufacture and use of each type of powder and concluded that Zeolite based powders do just as much damage to the environment as phosphate based products (Coghlan, 1994). Alarmingly it takes more of the Zeolite based products to do the same job as the phosphate powders. Worse still, the Zeolite powders require the addition of complex chemicals such as polycarboxylic acid (PCA) to even match the performance of conventional powders.

The Biometrics Safe & Clean range do away with the old technology of using phosphates and zeolites. In their place they use a technological breakthrough called layered disilicates. The layered disilicates are manufactured by reacting sand with soda ash. That's right, sand. No open cut mining to extract the raw materials; no complex chemical reactions or additional chemicals to make the final product. What about the performance? Layered Disilicates easily out perform phosphates and zeolites in all areas! Best of all, layered disilicates revert back to silicon (sand) in the environment. Furthermore, unlike zeolites they leave no problem sludge which can damage plumbing and your valuable white goods. Additionally they do not cause eutrophication problems in lakes and rivers that phosphate based detergents are known to do. Layered disilicates protect glassware from clouding and pitting and dissolve completely in cool water, something conventional dishwashing tablets often fail to do.

ENVIRONMENTAL IMPLICATIONS OF CHEMICALS USED IN ZEOLITE (ECO) DETERGENTS

There are a number of environmental uncertainties and disadvantages associated with zeolite based detergents:

ZEOLITEA:

- Increases suspended solids.
- May cause fouling of pipework.
- Significantly increases sludge volumes in sewage treatment plants.
- Disposal of sludge is difficult due to a low calorific value when incinerated and low fertilizer value if used on fields.

POLYCARBOXYLATES:

- Very poor biodegradability.
- Can prove difficult to remove in sewage works.
- May accumulate in sludge.
- Ultimate fate in the environment is uncertain.

PHOSPHONATES

- Very poor biodegradability.

NTA, EDTA:

- Can mobilize heavy metals.
- Build up in aquatic environments.
- Health and environmental risk difficult to correctly evaluate.
- EDTA is poorly biodegradable.
- NTA biodegrades poorly in some conditions.
- NTA banned or limited in several countries such as Switzerland.
- Both EDTA and NTA are not authorized in detergents eligible for the European Union Ecolabel.

SURFACTANT CONCENTRATION INCREASE:

- Increase biological oxygen demand in water.
- Increase load on sewage works and on the environment

ACTIVE OXYGEN

Traditional laundry powders utilize a strong bleaching agent called Sodium Hypochlorite. This bleaching agent has a cumulative damaging effect on organic substances such as cotton. It is a non-volatile substance and therefore residual amounts not removed in the rinse cycle (even in minute quantities) will accumulate and continue to slowly degrade organic fibres in the presence of humidity (Wikipedia, 2008). Furthermore, when used in hot water the Hypochlorite generates the environmentally unfriendly chemical, chlorate.

The Biometrics range of laundry powders takes a more friendly approach with their oxidizing agent. They contain the environmentally friendly sodium percarbonate. It is a white crystalline water soluble chemical compound of sodium carbonate and hydrogen peroxide. Dissolved in water, it releases H₂O₂ (hydrogen peroxide) and soda ash (sodium carbonate). Hydrogen peroxide is regarded as safe by the US food and drug administration and can also be used as an antiseptic on skin. In fact, its strong antiseptic properties give Biometrics laundry products their anti-bacterial / anti-microbial ability. Soda ash is used as a water softener in laundry powder and is extracted from the ash of many plants. It is often used in the baking of German pretzels and has a cooling alkaline taste. It is also the major constituent of glass. More importantly however, the soda ash in Biometrics laundry powder has the secondary effect as a descaler; preventing the buildup of sludge in plumbing associated with many traditional and alternative laundry products.

PROUDLY AUSTRALIAN

We at Biometrics are intensely proud of our range of products. Our laundry products are passionately Australian made from local and imported ingredients to ensure you get only the very best. The advanced technology in our materials, formulations and manufacturing techniques are second to none. Our 'safe and clean' range leads the way in environmental responsibility and performance. None of our products contain enzymes or optical brighteners.

For more information on our product range, refer to www.biometrics.com.au

REFERENCES

- Coghlan, A. (1994). Would you swap a packet of your old powder.... New Scientist. (Online). Available: <http://www.newscientist.com/article/mg14119111.600>. Issue.1911.5th February 1994.
- Wikipedia. (2008). Sodium hypochlorite. (Online). Available: http://en.wikipedia.org/wiki/Sodium_hypochlorite#Bleaching