

# LATEST ADVANCES: PURE FUN™ ORGANIC CANDY WHAT YOU DON'T KNOW CAN REALLY HURT YOU! CAREFULLY READ THE LABELS

Toronto, Canada, February 1, 2008

Pure Fun™ is more than just a candy company. Everything they do is directed towards improvement of the health of our children and their families. Founder and president, Luna Roth, is unyielding when it comes to quality, "A major building block of our business is product development and researching ingredients that provide not only great taste, but also alleviate allergy symptoms, behavioural disorders and the general well being of our consumer." Candy is Fun... *it shouldn't hurt™!*

While there are a number of organic products on the market, it is critical to be aware of the underlying ingredients, their benefits and pitfalls. A great concern through the ingredient investigative process decision making is following the origin of the hidden (and FDA allowable) components. Of greatest concern to us was the potential harm caused by ingredients based from organic plants such as cassava. Our follow-ups with the Agency for toxic substances have convinced us to discriminate against the use of potentially harmful ingredients such as Tapioca that, even though they be extremely cost effective to produce, the potential to cause harm does not warrant the manufacturing financial savings

Fact sheet, Division of Toxicology and Environmental Medicine of the U.S. Department of Health and Human Services, Public Health Service Agency for Toxic Substances and Disease registry forms part of this document. .

## HIGHLIGHTS

### What is cyanide?

Cyanide is usually found joined with other chemicals to form compounds. Cyanide is found in a number of organically grown foods and plants. In certain plant foods, including cassava roots (which are a major source of food in tropical countries), cyanides occur naturally as part of sugars or other naturally-occurring compounds. Edible parts of plants are approved for ingestion in the United States and that includes tapioca which is made from cassava roots which contain relatively low amounts of cyanide. But do we really know what harm this brings on? With estimates of over 50% of American children suffering from seemingly harmless food allergies, behavioural disorders such as ADD, ADHD, Autism, behavioural disorders, we also find record numbers of simple, acute and critical illness that were not rampant in previous generations. Is it not wise to stay away from all ingredients that may cause harm. While FDA approves ingredients like Tapioca with a tolerance of 30ppm, no consideration is given to the impact on the varying population. Does a 200 pound male have the same tolerance as a 30 pound child? I think not!

**The really alarming phenomenon is that Cyanide has been found in at least 471 of the 1,662 National Priorities List sites identified by the Environmental Protection Agency (EPA).**

The ATSDR reports "Compounds that release cyanide are naturally present in plants and therefore can be considered 'organic'. The amounts are usually low in the edible portion of foods, they are higher in cassava.... people should avoid exposure to products that could prevent accidental cyanide poisoning.

**Exposure to high levels of cyanide harms the brain and heart, and may cause coma and death.**

**Exposure to lower levels may result in breathing difficulties, heart pains, vomiting, blood changes, headaches, and general feeling of poor health**

There are healthier organic alternatives!

Extensive research has shown that brown rice syrup is the ingredient of choice to tame the roller coaster ride of your blood-sugar levels while continuing to pamper your sweet tooth. This organic natural sweetener is produced by steeping brown rice. Following this method the broken whole grains or brown rice are converted into a smooth-flavored and pleasantly sweet liquid extract. Organic brown rice syrup is quite healthy and mild with a buttery flavor and delicate sweetness. The nutrition values and derived benefits of brown rice syrup lays hidden in its main ingredient, the brown rice. Brown rice preserves the bran intact and thus becomes a much better source of fiber. Besides the fiber found in the brown rice, the bran contains nutrients like magnesium, manganese, and zinc. The marvelous nutty flavor of this non-polished rice is a great stimulant to get rid of other high sugar-low fiber options. All these healthy advantages of **organic** brown rice are transferred and reflected in brown rice syrup.

Pure Fun™ is a company that has made the strategic decision to abolish the use of Tapioca from all recipes and use as organic brown rice syrup as the core ingredient in all recipes...Better for you candy®

The organic industry is growing exponentially year over year and is reaching ever expanding appeal to the educated mainstream consumer. The confectionery category is growing by over 20% per year and at this rate it is estimated that 25% of candy purchases will be organic choices by the year 2010. Pure Fun will retain its leadership position by thoroughly researching and producing products that bring a healthier alternative to our society's emotional desires for a quick treat or indulgence!



## CYANIDE

CAS# 74-90-8, 143-33-9, 151-50-8, 592-01-8,  
544-92-3, 506-61-6, 460-19-5, 506-77-4

Division of Toxicology and Environmental Medicine ToxFAQs™

July 2006

This fact sheet answers the most frequently asked health questions (FAQs) about cyanide. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

**HIGHLIGHTS: Exposure to high levels of cyanide harms the brain and heart, and may cause coma and death. Exposure to lower levels may result in breathing difficulties, heart pains, vomiting, blood changes, headaches, and enlargement of the thyroid gland. Cyanide has been found in at least 471 of the 1,662 National Priorities List sites identified by the Environmental Protection Agency (EPA).**

### What is cyanide?

Cyanide is usually found joined with other chemicals to form compounds. Examples of simple cyanide compounds are hydrogen cyanide, sodium cyanide and potassium cyanide. Certain bacteria, fungi, and algae can produce cyanide, and cyanide is found in a number of foods and plants. In certain plant foods, including almonds, millet sprouts, lima beans, soy, spinach, bamboo shoots, and cassava roots (which are a major source of food in tropical countries), cyanides occur naturally as part of sugars or other naturally-occurring compounds. However, the edible parts of plants that are eaten in the United States, including tapioca which is made from cassava roots, contain relatively low amounts of cyanide.

Hydrogen cyanide is a colorless gas with a faint, bitter, almond-like odor. Sodium cyanide and potassium cyanide are both white solids with a bitter, almond-like odor in damp air. Cyanide and hydrogen cyanide are used in electroplating, metallurgy, organic chemicals production, photographic developing, manufacture of plastics, fumigation of ships, and some mining processes.

### What happens to cyanide when it enters the environment?

- ❑ Cyanide enters air, water, and soil from both natural processes and industrial activities.
- ❑ In air, cyanide is mainly found as gaseous hydrogen cyanide; a small amount is present as fine dust particles.
- ❑ The half-life (the time needed for half of the material to be removed) of hydrogen cyanide in the atmosphere is about 1–3 years.

- ❑ Most cyanide in surface water will form hydrogen cyanide and evaporate.

- ❑ Cyanide in water does not build up in the bodies of fish.
- ❑ Cyanides are fairly mobile in soil. Once in soil, cyanide can be removed through several processes. Some cyanide compounds in soil can form hydrogen cyanide and evaporate, whereas some cyanide compounds will be transformed into other chemical forms by microorganisms in soil. At the high concentrations, cyanide becomes toxic to soil microorganisms. Because these microorganisms can no longer change cyanide to other chemical forms, cyanide is able to pass through soil into underground water.

### How might I be exposed to cyanide?

- ❑ Breathing air, drinking water, touching soil, or eating foods that contain cyanide.
- ❑ Smoking cigarettes and breathing smoke-filled air during fires are major sources of cyanide exposure.
- ❑ Breathing air near a hazardous waste site containing cyanide.
- ❑ Eating foods naturally containing cyanide compounds, such as tapioca (made from cassava roots), lima beans, and almonds. However, the portions of these plants that are eaten in the United States contain relatively low amounts of cyanide.

### How can cyanide affect my health?

You are not likely to be exposed to large enough amounts of cyanide in the environment to cause adverse health effects. The severity of the harmful effects following cyanide exposure

ToxFAQs™ Internet address is <http://www.atsdr.edc.gov/toxfaq.html>

depends in part on the form of cyanide, such as hydrogen cyanide gas or cyanide salts. Exposure to high levels of cyanide for a short time harms the brain and heart and can even cause coma and death. Workers who inhaled low levels of hydrogen cyanide over a period of years had breathing difficulties, chest pain, vomiting, blood changes, headaches, and enlargement of the thyroid gland.

Some of the first indications of cyanide poisoning are rapid, deep breathing and shortness of breath, followed by convulsions (seizures) and loss of consciousness. These symptoms can occur rapidly, depending on the amount eaten. The health effects of large amounts of cyanide are similar, whether you eat, drink, or breathe it; cyanide uptake into the body through the skin is slower than these other means of exposure. Skin contact with hydrogen cyanide or cyanide salts can irritate and produce sores.

#### **How likely is cyanide to cause cancer?**

There are no reports that cyanide can cause cancer in people or animals. EPA has determined that cyanide is not classifiable as to its human carcinogenicity.

#### **How can cyanide affect children?**

Effects reported in exposed children are like those seen in exposed adults. Children who ate large quantities of apricot pits, which naturally contain cyanide as part of complex sugars, had rapid breathing, low blood pressure, headaches, and coma, and some died. Cyanide has not been reported to directly cause birth defects in people. However, among people in the tropics who eat cassava root, children have been born with thyroid disease because of the mothers' exposure to cyanide and thiocyanate during pregnancy. Birth defects occurred in rats that ate cassava root diets, and harmful effects on the reproductive system occurred in rats and mice that drank water containing sodium cyanide.

#### **How can families reduce the risk of exposure to cyanide?**

Families can reduce their exposure to cyanide by not breathing in tobacco smoke, which is the most common source of cyanide exposure for the general population. In the event of a building fire, families should evacuate the building immediately, because

smoke from burning plastics contains cyanide (and carbon monoxide). Breathing this smoke can lead to unconsciousness or death. Cyanide in smoke can arise from the combustion of certain plastics (e.g., polyacrylamines, polyacrylics, polyurethane, etc.).

Compounds that release cyanide are naturally present in plants. The amounts are usually low in the edible portion but are higher in cassava. Pits and seeds of common fruits, such as apricots, apples, and peaches, may have substantial amounts of cyanide-releasing chemicals, so people should avoid eating these pits and seeds to prevent accidental cyanide poisoning.

#### **Is there a medical test to show whether I've been exposed to cyanide?**

There are medical tests to measure blood and urine levels of cyanide; however, small amounts of cyanide are always detectable in blood and urine. Tissue levels of cyanide can be measured if cyanide poisoning is suspected, but cyanide is rapidly cleared from the body, so the tests must be done soon after the exposure. An almond-like odor in the breath may alert a physician that a person was exposed to cyanide.

#### **Has the federal government made recommendations to protect human health?**

EPA regulates the levels of cyanide that are allowable in drinking water. The highest level of cyanide allowed in drinking water is 0.2 parts cyanide per 1 million parts of water (0.2 ppm). The Occupational Safety and Health Administration (OSHA) has set a limit for hydrogen cyanide and most cyanide salts of 10 parts cyanide per 1 million parts of air (10 ppm) in the workplace.

#### **Reference**

Agency for Toxic Substances and Disease Registry (ATSDR). 2006. Toxicological Profile for Cyanide (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

**Where can I get more information?** For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.edc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Federal Recycling Program



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