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Organo-Sol Herbicide

A Look at a so-called Green Alternative to conventional weed control products

Active Ingredients in Organo-Sol

According to the label ...

Organo-Sol is a lacto-fermented liquid herbicide suspension.

It contains a mix of Lactic Acid bacteria used against various weeds in established lawns.

Lactic Acid, 17.69 grams per litre

Citric Acid, 19.71 grams per litre

Present as fermentation products of —

Lactobacillus rhamnosus strain LPT-21,

Lactobacillus casei strain LPT-111,

Lactococcus lactis ssp. *cremoris* strain M11/CSL,

Lactococcus lactis ssp. *lactis* strain LL64/CSL, and

Lactococcus lactis ssp. *lactis* strain LL102/CSL

Lactic Acid

Lactic Acid is naturally PRESENT IN ANIMALS AND HUMANS, in muscle cells when the oxygen supply is inadequate to support energy production, and is normally excreted in human urine.

In ruminants, Lactic Acid is a normal intermediate of feed digestion.

Higher plants also contain Lactic Acid.

Lactic Acid is naturally PRESENT IN MANY EDIBLE FOOD COMMODITIES such as apples and other fruits, fruit juices, tomato juice, soft drinks, beer and wine, bakery goods, cheeses, candy, and salad dressings.

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*THE CURRENT USE OF LACTIC ACID
IN PEST CONTROL PRODUCTS
WILL NOT ADVERSELY AFFECT
PUBLIC HEALTH AND THE ENVIRONMENT*

Lactic Acid is also formed by natural fermentation in sour dairy products, fermented fruits and vegetables, and sausages.

Lactic Acid has MANY CHEMICAL APPLICATIONS IN INDUSTRY, such as salts, plasticizers, adhesives, in pharmaceuticals, as a mordant in dyeing wool, in de-hairing/plumping/and decalcifying hides, and as a solvent.

It is reasonable to expect that these industrial uses may result in the release of Lactic Acid into the environment through various waste streams.

In PEST CONTROL PRODUCTS specifically, Lactic Acid is classified on the United States Environmental Protection Agency's (U.S. EPA) List of Inert Ingredients as a List 4B, an INERT INGREDIENT for which there is sufficient information to conclude that its current use pattern in pest control products WILL NOT ADVERSELY AFFECT PUBLIC HEALTH AND THE ENVIRONMENT.

Citric Acid

Citric Acid is a weak organic acid that is FOUND NATURALLY in soil and water, natural waters, and sewage treatment systems.

Citric Acid plays a key role in the CITRIC ACID CYCLE, the metabolic energy system that is active in all animals and higher plants.

Citric Acid is also naturally present at high levels in many EDIBLE FOOD commodities, such as in citrus fruit (particularly lemons and limes), raspberries, tomatoes, and potatoes.

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*THE RISK TO TERRESTRIAL AND AQUATIC NON-TARGET ORGANISMS
FROM LACTIC ACID BACTERIA IS NEGLIGIBLE*

Citric Acid is also WIDELY USED IN THE FOOD INDUSTRY, as an acidulant in beverages (e.g., fruit juices), in confectionary, in pharmaceutical syrups, and in processing cheese, as well as in the chemical manufacturing, as a foam inhibitor, as a sequestering agent mordant, as an anti-coagulant, as a buffering agent, for pH adjustments, and as a water conditioning agent for laundry detergents, shampoos, cosmetics, and chemical cleaning products.

It is reasonable to expect that these industrial uses may result in the release of Citric Acid into the environment through various waste streams.

Occurrence of Lactic Acid in Nature

Lactic Acid bacteria are considered WIDESPREAD IN NATURE.

Lactic Acid bacteria can be recovered from water, soil, manure, sewage, and silage as well as from a variety of plant material such as fruit, vegetables, grass, and clover.

Lactic Acid bacteria are also part of the COMMENSAL MICROFLORA OF HUMANS and animals as part of the gastrointestinal tract, oral cavity, and vagina.

Published literature indicates that although Lactic Acid bacteria can survive outside of the dairy environment, they are UNLIKELY TO THRIVE.

Furthermore, the number of Lactic Acid bacteria contained in Organo-Sol is RELATIVELY LOW.

Since the use of Organo-Sol is NOT LIKELY to result in an increase of the number of Lactic Acid bacteria in the environment, the risk to terrestrial and aquatic non-target organisms from Lactic Acid bacteria is NEGLIGIBLE.

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*REPORTS DO NOT SUGGEST THAT EXPOSURE OF
NON-TARGET TERRESTRIAL AND AQUATIC ORGANISMS
TO THE LEVELS OF LACTIC AND CITRIC ACID IN ORGANO-SOL
WILL POSE A CONCERN WITH RESPECT TO TOXICITY*

*LACTIC ACID AND CITRIC ACID ARE EXPECTED
TO POSE NEGLIGIBLE RISK TO TERRESTRIAL AND
AQUATIC ORGANISMS UNDER THE CONDITIONS OF USE*

Environmental Risks Are NOT of Concern

Citric Acid and Lactic Acid readily undergo bio-transformation in terrestrial and aquatic environments.

Given the ubiquitous nature of Citric Acid and Lactic Acid in animals, plants, edible food commodities and industrial chemicals, the proposed uses of Organo-Sol on lawns is NOT expected to result in a considerable increase in exposure to non-target terrestrial and aquatic organisms.

Furthermore, reports in published literature of cases of adverse effects, as well as published toxicological end-points, DO NOT suggest that exposure of non-target terrestrial and aquatic organisms to the levels of Citric Acid and Lactic Acid in Organo-Sol will pose a concern with respect to toxicity.

Based on the available data, Citric Acid and Lactic Acid are expected to pose NEGLIGIBLE RISK TO TERRESTRIAL AND AQUATIC ORGANISMS under the conditions of use.

Selected and adapted excerpts from Health Canada report.

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Force Of Nature presents THE WHOLE TRUTH FROM AN INDEPENDENT PERSPECTIVE from National Organization Responding Against Huje that seek to harm or misinform the Green Space Industry (NORAHG). It is a series of Reports destined for the Green Space Industry, the Environmental Terror Movement, Governments, and the Media, nationwide across Canada, the United States, and overseas. This Report has been developed for the education and entertainment of the reader by providing TECHNICAL INFORMATION WITH COMMENTARY. The neutrality of the Report might be disputed.

O

The information presented in this Report is for preliminary planning only. Before making a final decision, the turf manager is expected to obtain trusted expert advice from extension specialists, local distributors and/or agronomists. All decisions must take into account the prevailing growing conditions, the time of year, and the established management practices.

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All products mentioned in this Report should be used in accordance with the manufacturer's directions, and according to provincial, state, or federal law. For the official advantages, benefits, features, precautions, and restrictions concerning any product, the turf manager must rely only on the information furnished by the manufacturer. The mention of trade names does not constitute a guarantee or a warranty.

A

All information, excerpts, and pictures contained in this Report were found somewhere on the Internet, and may be considered in the public domain, serving one of the following purposes — archive, education, promotion, publicity, or press release. Force Of Nature is TOTALLY INDEPENDENT of any trade association or business operating within the Green Space Industry. Don't thank us. It's a public service. And we are glad to do it.

H

Force Of Nature is the brainchild of William H. Gathercole and his entourage. Mr. Gathercole is a principal founder of the Modern Professional Lawn Care Industry in both Ontario and Quebec. He holds a degree in Horticulture from the University of Guelph, and another pure and applied science degree from McGill University. He has worked in virtually all aspects of the Green Space Industry, including golf, professional lawn care, and distribution. Mr. Gathercole has supervised, consulted, programmed, and/or overseen the successful execution of hundreds of thousands of management operations in the urban landscape. He has trained, instructed, and advised thousands of turf managers and technicians. Mr. Gathercole has also been an agricultural agronomist. Mr. Gathercole is personally credited for crafting the Exception Status that has allowed the Golf Industry to avoid being subjected to the prohibition of pest control products. He is also the creator of the signs that are now used for posting after application. Mr. Gathercole is now retired from Force Of Nature, although his name continues to appear as the founder.

G

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The Whole Truth from an Independent Perspective



*Things are not always
what they seem*