# MATERIAL SAFETY DATA SHEET
# Version1.403 14th May 2014

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**

Product Name: **CROFFT Fertiliser (Retail)**
Manufacturer: **Biosynergy Fertilisers**
Address: 18 Conquest Way, Wangara WA 6065
Western Australia
Telephone: +61 8 93816366

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Recommended use: Liquid Fertilizer.
Properties: Odourless suspended concentrate.

| CHEMICAL ENTITY | PROPORTION |
|---|---|
| Water | HIGH.....50-60% |
| Fulvic Acid | MEDIUM....10-14% |
| Surfactants/Clays | MEDIUM.....10-14% |
| Nitrogen | LOW.....2-4% |
| Sulphur | LOW.....1-2% |
| Iron | LOW.....1-2% |
| Antifoam | LOW..1-1.5% |
| Calcium | VERY LOW..0.7-1.2% |
| Boron | VERY LOW..0.06-0.1% |
| Manganese | VERY LOW..0.05-0.07% |
| Zinc | VERY LOW..0.03-0.06% |
| Molybdenum | VERY LOW.. 0.01-0.03% |
| Copper | VERY LOW.. 0.01-0.03% |

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS) or are Australian Pesticides and Veterinary Medicines Authority (APVMA) approved active constituents.

**3. HAZARDS IDENTIFICATION**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road, sea or rail.

Not classified as Dangerous Goods by the criteria of the International Civil Aviation Organisation (ICAO) and the International Air Transport Association (IATA) for transport by air.

**4. HEALTH EFFECTS**

Inhaled: Unlikely given nature of the product. Possible risk of asphyxiation;

Swallowed: May cause irritation and vomiting;

Eyes: Liquid will cause redness and irritation.

**5. FIRST AID MEASURES**

Poison Information Centres in each State capital city can provide additional assistance for scheduled poisons.
Ingestion: Rinse mouth with water. Give plenty of water to drink. If vomiting occurs give further water. Seek medical advice.
**Eye contact**: Eyelids to be held open. Immediately irrigate with copious quantities of water for at least 15 minutes. Seek medical advice.
**Skin contact**: Wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. If irritation occurs seek medical advice.
**Inhalation**: Least likely route given nature of product. Lay patient down. Keep warm and rested. If breathing is shallow or has stopped, ensure clear airway and apply resuscitation. Transport to hospital or doctor.

**Notes to physician**: Treat symptomatically.

**6. FIRE-FIGHTING MEASURES**

Specific hazards: Non combustible material.
Fire-fighting further advice: Not combustible. On burning will emit mildly toxic fumes. Fire fighters to wear self-contained breathing apparatus if risk of exposure to products of combustion.
Suitable extinguishing media: Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder),

**7. ACCIDENTAL RELEASE MEASURES**

**Small spills**: Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination. Use absorbent (soil,

sand or other inert material). Collect and seal in properly labelled containers for disposal. Wash area down with detergent and excess water.
**Large spills**: Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapour. Contain using sand or soil - prevent run off into drains and waterways. Collect and seal in properly labelled drums for disposal. Wash area down with detergent and excess water. If contamination of crops or waterways has occurred advise emergency services or State Department of Agriculture.

## 8. HANDLING AND STORAGE

National occupational exposure limits:
No value assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia)
TWA - The Time-Weighted Average airborne concentrations over an eight-hour working day, for a five-day working week over an entire working life. These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to a low level as is workable. Exposure Standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. If the directions for use on the product label are followed, exposure of individuals using the product will not exceed the above standard. The standard was created for workers who are routinely exposed during product manufacture.

Engineering measures: Use in a well-ventilated area. Keep containers closed when not in use.
Personal protection equipment: Orica Personal Protection Guide No.1, 1998: COVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES (S).
Manufacture, Packaging and Transport: Avoid skin and eye contact. Wear overalls, chemical goggles and impervious gloves. Always wash hands before smoking, eating, drinking, or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.
If inhalation risk exists, wear organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
Preparation and use of product: When mixing and using avoid contact with eyes and skin. After use and before eating, drinking, or smoking, wash hands, arms and face thoroughly with soap and water.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Odour / Form: Odourless, suspension concentrate. Solubility:
Dispersible in water.

| | |
|---|---|
| Specific Gravity (20 C) : 1.07 | Melting Point (C) : N App |
| Rel Vapour Density (air=1) : N Av | Boiling Point (C) : N Av |
| Vapour Pressure (20 C) : N Av | Decomp. Point (C) : N Av |
| Flash Point (C) : N App | Sublimation Point : N Av |
| Flammability Limits (%) : N App | pH : 6.3 |
| Autoignition Temp (C) : N App | Viscosity : N Av |
| % Volatile by weight : N Av | Evaporation Rate : N Av |
| Solubility in water (g/L) : | N Av (n-Butyl acetate=1) |

N Av = Not available N App = Not applicable

**10. PRECAUTIONS FOR USE.**

| | |
|---|---|
| Exposure Standards: | None assigned for mixture; |
| Engineering Controls: | None required; |
| Personal Protection: | Use rubber gloves and apron, gum boots; |
| Flammability: | Not flammable. |

**11. TOXICOLOGICAL INFORMATION**

Main symptoms: No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled are:
Ingestion: Swallowing can result in nausea, vomiting and abdominal pain.
Eye contact: An eye irritant.
Skin contact: Contact with skin may result in irritation.
Inhalation: Where this material is used in a poorly ventilated area and at elevated temperatures and confined spaces vapour may cause irritation to mucous membranes and respiratory tract, headache and nausea. Inhalation of mists or aerosols may produce respiratory irritation.
Long term effects: Available evidence indicates that repeated or prolonged exposure may adversely affect the liver. (1)
Acute toxicity / Chronic toxicity
No LD50 data available for the product. However for the constituent, Oral
LD50 (rat, male): 2000 mg/kg.
Oral LD50 (rat, female): 1300 mg/kg
Dermal LD50 (rat): >2000 mg/kg
Dermal LD50 (rabbit): >1000 mg/kg
Inhalation LC50 (rat, male): 4.79 mg/L/4hr
Inhalation LC50 (rat, female): 3.13 mg/L/4hr
Skin: Mild Irritant (rabbit). Not a skin sensitiser (guinea pig)
Eyes: Moderate irritant (rabbit)
Negative in a battery of mutagenicity assays.
Chronic studies in rats and dogs have shown liver effects (increased liver weights) in animals fed 12.5 and 75 mg/kg/day respectively.
Reproductive studies indicate that produces embryo/foetotoxic effects at maternally toxic doses, only. ADI (Acceptable Daily Intake) for humans is 0.01 mg/kg/day. (2)

**12. ECOLOGICAL INFORMATION**

Avoid contamination with waterways. AQUATIC
TOXICITY
Toxic to aquatic organisms.
96hr LC50 (rainbow trout): 222.8 mg/L
48hr LC50 (daphnia magna): 265.6 mg/L
TERRESTRIAL TOXICITY
Oral LD50 (mallard ducks): .17900 mg/kg
Non-toxic to bees (acute oral) at .0.022 mg/bee and (acute dermal) at .0.09 mg/bee.
A study in fish has shown that repeated doses produce no adverse effect on growth rate up to the concentration of 14.3 mg/L
LogPow = 3.2
Risk of bioaccumulation in an aquatic species is moderate.
ENVIRONMENTAL FATE, DISTRIBUTION AND PERSISTENCE

The substance has moderate mobility in soil. Absorption depends on soil pH and organic matter content. It has potential for bioaccumulation, however, there is a rapid accumulation from fish (>95% within 3 days).
There is no evidence of photodegredation in water or on soil surfaces nor is there evidence of hydrolysis in water. The half life in soil is 6 months to a year.

## 13. DISPOSAL CONSIDERATIONS

Clean out empty container by rinsing at least 3 times with water, add the washings to the spray tank. Destroy the empty containers by breaking, crushing or puncturing them. Bury empty containers at a depth of 500 mm or more at a disposal site, or take them to a dump that does not burn its refuse. Do not burn empty containers or product.

## 14. TRANSPORT INFORMATION

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## 15. OTHER INFORMATION

This MSDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since Biosynergy Fertilisers and its subsidiaries cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review the MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company. Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is available upon request.