

# MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA standards

## PART I What is the material and what do I need to know in an emergency?

### 1. PRODUCT IDENTIFICATION

**TRADE NAME (AS LABELED):** Fountain Oxidizer  
**CHEMICAL NAME/CLASS:** Inorganic Salt Mixture  
**SYNONYMS:** None Allocated  
**U.N. NUMBER:** None Allocated  
**U.N. DANGEROUS GOODS CLASS/SUBSIDIARY RISK:** None Allocated  
**HAZCHEM CODE (AUSTRALIA):** None Allocated  
**POISONS SCHEDULE NUMBER (AUSTRALIA):** None Allocated  
**PRODUCT USE:** Water Purification  
**SUPPLIER/MANUFACTURER'S NAME:** IPS-CareFree Enzymes, Inc.  
**U.S. ADDRESS:** 23705 Durand Avenue  
Kansasville WI 53139  
**U.S. BUSINESS PHONE:** 262-878-0995  
**U.S. EMERGENCY PHONE:** 1-800-255-3924  
**DATE OF PREPARATION:** February 19, 2001

### 2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	Proportion (w/w%)	EXPOSURE LIMITS IN AIR					
		ACGIH- TLVs		OSHA-PELs		IDLH mg/m <sup>3</sup>	OTHER (See Section 8 for Additional Values)
		TWA mg/m <sup>3</sup>	STEL mg/m <sup>3</sup>	TWA mg/m <sup>3</sup>	STEL mg/m <sup>3</sup>		
Proprietary Compound 1	> 40	0.1	NE	NE	NE	NE	NE
Proprietary Compound 2	20-30	NE	NE	NE	NE	NE	NE
Proprietary Compound 3	5-10	10 (fumes)	20 (fume)	10 (fumes) (Vacated 1989 PEL)	20 (fume) (Vacated 1989 PEL)	NE	NIOSH REL: TWA = 10 mg/m <sup>3</sup> STEL: 20 mg/m <sup>3</sup>
Proprietary Compound 4	5-10	NE	NE	NE	NE	NE	NE
Proprietary Compound 5	5-10	NE	NE	NE	NE	NE	NE
Proprietary Compound 6 Exposure limits are for Aluminum, Soluble Salts	1-5	1	NE	10 (Vacated 1989 PEL)	NE	NE	NIOSH REL: TWA = 1 mg/m <sup>3</sup>
Proprietary Compound 7	1	NE	NE	NE	NE	NE	NE
Other components which are each present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).	Balance	None of the other components contribute significant additional hazards at the concentrations present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards and Canadian Workplace Hazardous Materials Identification System Standards, European Council Directives, and Australian WorkSafe Regulations.					

NE = Not Established. See Section 16 for Definitions of Terms Used.

NOTE (1): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1998 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

NOTE (2): Information on this product is being claimed as proprietary. All pertinent hazard information has been provided, per the Trade Secret requirements of U.S. Federal Occupational Safety and Health Administration Standards (29 CFR 1910.1200), Canadian WHMIS (CPR 12 and 19), European Community Standards (Council Directive 88/379/EEC, Article 7), and Australian Standards (NOHSC: 2011, 8.30-8.48). Information on this mixture will be released when the conditions specified in these Standards are met.

### 3. HAZARD IDENTIFICATION

**EMERGENCY OVERVIEW:** This is a white, crystalline, odorless solid. **Health Hazards:** The product may be mildly to moderately irritating upon prolonged contact. **Flammability Hazards:** This material is not flammable. However, this product contains an oxidizer (the Proprietary Compound 1); care should be taken to avoid exposing this substance to combustible materials. **Reactivity Hazards:** Heat may be generated when this product is added to water. Opening sealed containers of wetted product may result in inhalation of significant amounts of toxic gases. Pressurized containers of wetted product also have the potential to rupture. **Emergency Response:** Emergency responders must wear proper personal protective equipment for the incident to which they are responding.

**SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE:** The most significant routes of occupational overexposure are inhalation and contact with skin and eyes. The symptoms of overexposure to this product, via route of entry, are as follows:

**INHALATION:** If dusts or particulates of this product are inhaled, symptoms of exposure may include breathing difficulty, irritation of the mucus membranes, coughing, nasal congestion, and a sore throat. Damage to the tissues of the respiratory system may occur, especially after prolonged exposures to high dust concentrations of this product.

**CONTACT WITH SKIN or EYES:** Contact with the eyes will cause moderate to severe irritation, pain, reddening, watering. Prolonged eye contact with high concentrations of this product may result in tissue damage and blindness. Depending on the duration of skin contact, skin overexposures may cause reddening, discomfort, and moderate irritation. The Proprietary Compound 1 component is a skin sensitizer; prolonged or repeated contact with this product may result in the development of dermatitis, rashes, and other allergic skin reactions.

**SKIN ABSORPTION:** Skin absorption is not a significant route of over-exposure for any component of this product.

**INGESTION:** Ingestion is not anticipated to be a likely route of occupational exposure to this product. If ingestion does occur, moderate to severe irritation of the mouth, throat, esophagus, and other tissues of the digestive system may occur. Symptoms of such over-exposure can include nausea, vomiting, diarrhea. If swallowed, this product may produce quantities of carbon dioxide and other gases which can cause severe damage by physical pressure. Ingestion of large volumes of this product may be fatal.




**INJECTION:** Injection is not anticipated to be a significant route of overexposure for this product. Injection of this product (via puncture with a contaminated object) can cause pain and severe irritation, in addition to the wound. **See Section 16 for Definition of Ratings**

**HEALTH EFFECTS OR RISKS FROM EXPOSURE (An explanation in lay terms).**

**ACUTE:** Depending on the duration of contact, over-exposures can mildly to moderately irritate the eyes, skin, mucous membranes, and any other exposed tissue. Severe, prolonged eye contact may result in blindness. If inhaled, irritation of the respiratory system may occur, with coughing and breathing difficulty. Severe ingestion over-exposures may be fatal.

**CHRONIC:** The Proprietary Compound 1 component is a skin sensitizer; prolonged or repeated contact with this product may result in the development of dermatitis, rashes, and other allergic skin reactions. Refer to Section 11 (Toxicology Information) for additional information on this product's components.

**TARGET ORGANS:** Respiratory system, skin, eyes.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM			
HEALTH		(BLUE)	2
FLAMMABILITY		(RED)	0
REACTIVITY		(YELLOW)	1
PROTECTIVE EQUIPMENT			C/F
EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		
For routine applications.			

## PART II *What should I do if a hazardous situation occurs?*

### 4. FIRST-AID MEASURES

Contaminated individuals must be taken for medical attention if any adverse effect develops. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to health professional with victim.

**INHALATION:** If dusts or particulates of this product are inhaled, remove victim to fresh air. Have the contaminated individual blow nose.

## 4. FIRST-AID MEASURES (Continued)

**SKIN EXPOSURE:** If this product contaminates the skin and irritation develops, begin decontamination with running water. The minimum flushing time is 15 minutes for situations in which irritation occurs. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Contaminated individuals must seek medical attention if any adverse effect continues after flushing.

**EYE EXPOSURE:** If dusts or particulates of this product enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Contaminated individuals must seek medical attention if any adverse effect continues after flushing.

**INGESTION:** If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Victim should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Acute or chronic skin conditions or disorders involving the "Target Organs" (see Section 3, "Hazard Identification") may be aggravated by overexposure to dusts of this product.

**RECOMMENDATIONS TO PHYSICIANS:** Treat symptoms and eliminate overexposure. Consultation with an ophthalmologist is recommended if eye exposure leads to tissue damage. If allergic skin reactions arise, a qualified allergist should be consulted.

## 5. FIRE-FIGHTING MEASURES

**FLASH POINT:** Not flammable.

**AUTOIGNITION TEMPERATURE:** Not flammable.

**FLAMMABLE LIMITS (in air by volume, %):**

Lower (LEL): Not applicable.

Upper (UEL): Not applicable.

**FIRE EXTINGUISHING MATERIALS:**

Water Spray: YES

Foam: YES

Halon: YES

Carbon Dioxide: YES

Dry Chemical: YES

Other: Any "ABC" Class.

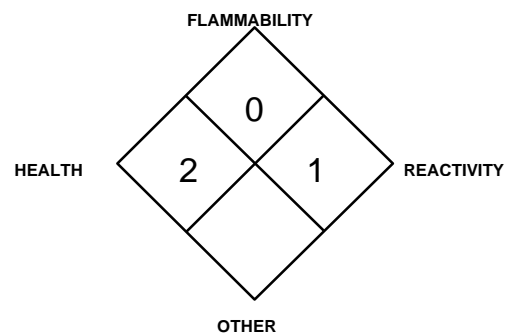
**UNUSUAL FIRE AND EXPLOSION HAZARDS:** This product is a potential irritant and may present a contact hazard to firefighters. When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (e.g., sulfur oxides). This product contains an oxidizer; care should be taken to avoid exposing this substance to combustible materials.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

**SPECIAL FIRE-FIGHTING PROCEDURES:** Prevent the spread of any released product to combustible objects. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Rinse contaminated equipment thoroughly with soapy water before returning such equipment to service.

### NFPA RATING



**See Section 16 for Definition of Ratings**

## 6. ACCIDENTAL RELEASE MEASURES

**RELEASE RESPONSE:** Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people.

For small releases (e.g., 2 pound release), clean up spilled solid wearing gloves, goggles, and suitable body protection. The minimum Personal Protective Equipment recommended for response to non-incident releases (e.g., 300 pound release) should be Level C: triple-gloves (rubber gloves, nitrile gloves over latex gloves), chemical resistant suit and boots, hard-hat, and an air-purifying respirator (with high efficiency particulate filter). Level B, which includes a Self-Contained Breathing Apparatus, must be worn when oxygen levels are below 19.5% or unknown.

Sweep-up or vacuum spilled solid. Triple-rinse area with water. Place all spill residue in a suitable container. Dispose of in accordance with applicable U.S. Federal, State, or local procedures, or the appropriate standards of Canada, Australia, and EC Member States (see Section 13, Disposal Considerations).

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## **PART III** *How can I prevent hazardous situations from occurring?*

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### **7. HANDLING and STORAGE**

**WORK AND HYGIENE PRACTICES:** As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after using this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing dusts generated by this product. Use in a well-ventilated location. Wipe-down area routinely to avoid the accumulation of dusts of this product. Remove contaminated clothing immediately.

**STORAGE AND HANDLING PRACTICES:** All employees who handle this material should be trained to handle it safely. Keep container tightly closed when not in use. Store containers in a cool, dry location, away from direct sunlight, or sources of intense heat. Material should be stored in secondary containers. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Store containers away from wood, cardboard boxes, and other combustible materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

Do not seal a container into which wetted product has been placed. The wetted product will generate toxic gases (e.g., sulfur compounds). If this reaction occurs in a sealed container, there will be a build-up of pressure, which can result in an inhalation exposure to a significant level of toxic substances upon opening the container. Additionally, there is the potential for the pressurized container to rupture. Empty containers may contain residual particulates; therefore, empty containers should be handled with care. Never store food, feed, or drinking water in containers which held this product.

**PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:** Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely, if necessary. Collect all rinsates and dispose of according to applicable U.S. Federal, State, or local procedures, or the appropriate standards of Canada, Australia, and EC Member States.

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### **8. EXPOSURE CONTROLS - PERSONAL PROTECTION**

**VENTILATION AND ENGINEERING CONTROLS:** Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in Section 2 (Composition and Information on Ingredients), if applicable. Ensure eyewash/safety shower stations are available near areas where this product is used.

**INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS:** In addition to the exposure limit values cited in Section 2 (Composition and Information on Ingredients), other exposure limits have been established by various countries for the components of this mixture, as follows (no listing for a component indicates no values are available): Note: All limits given are 1993 values; refer to current country limits for complete information.

**PROPRIETARY COMPOUND 3:**

Australia: = TWA = 10 mg/m<sup>3</sup>; STEL = 20 mg/m<sup>3</sup>  
(fume)  
Belgium: TWA = 10 mg/m<sup>3</sup>; STEL = 20 mg/m<sup>3</sup>  
(fume)  
Denmark: TWA = 10 mg/m<sup>3</sup> (fume)  
France: TWA = 10 mg/m<sup>3</sup> (fume)  
The Netherlands: TWA = 10 mg/m<sup>3</sup> (fume)  
Russia: STEL = 10 mg/m<sup>3</sup> (fume)  
Switzerland: TWA = 6 mg/m<sup>3</sup> (fume)  
United Kingdom: TWA = 10 mg/m<sup>3</sup>; STEL = 20  
mg/m<sup>3</sup> (fume)

**PROPRIETARY COMPOUND 6:**

Australia: TWA = 2 mg(Al)/m<sup>3</sup>  
Belgium: TWA = 2 mg(Al)/m<sup>3</sup>  
Denmark: TWA = 2 mg(Al)/m<sup>3</sup>  
France: TWA = 2 mg(Al)/m<sup>3</sup>  
The Netherlands: TWA = 2 mg(Al)/m<sup>3</sup>  
Russia: STEL = 2 mg(Al)/m<sup>3</sup>  
Sweden: TWA = 2 mg(Al)/m<sup>3</sup>  
Switzerland: TWA = 2 mg(Al)/m<sup>3</sup>  
United Kingdom: TWA = 2 mg(Al)/m<sup>3</sup>

**PROPRIETARY COMPOUND 1:**

Denmark: TWA = 2 mg/m<sup>3</sup>  
United Kingdom: TWA = 1 mg/m<sup>3</sup>

**RESPIRATORY PROTECTION:** Maintain airborne contaminant concentrations below exposure limits listed in Section 2 (Composition and Information on Ingredients), if applicable. Dust masks should be worn if operations will generate excessive dusts or particulates. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, and the European Standard EN166, and EC member states. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

**EYE PROTECTION:** Splash goggles or safety glasses.

**HAND PROTECTION:** Use rubber or neoprene gloves. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this MSDS.

**BODY PROTECTION:** Use body protection appropriate for task. An apron, Tyvek suit, or other impermeable body protection is suggested if operations will generate excessive dusts. Full-body chemical protective clothing is recommended for emergency response procedures.

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## 9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): Not applicable.

SPECIFIC GRAVITY (water = 1): 2.48

SOLUBILITY IN WATER: Soluble.

VAPOR PRESSURE, mm Hg @ 20°C: Not applicable.

ODOR THRESHOLD: Not applicable.

COLOR: White.

VISCOSITY: Not applicable.

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not available.

HOW TO DETECT THIS SUBSTANCE (warning properties): The appearance may act as a distinguishing characteristic.

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EVAPORATION RATE (n-BuAc = 1): Not applicable.

MELTING/FREEZING POINT: Not established.

BOILING POINT: Not applicable.

pH (solutions): 5.7

FORM: Crystalline solid.

ODOR: Odorless.

FLASH POINT: Not applicable.

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## 10. STABILITY and REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: Products of thermal decomposition include ammonia, carbon oxides, sulfur oxides, and a variety of inorganic compounds containing potassium, sodium, calcium, and aluminum.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Organic substances, strong acids, strong bases, powdered metal. This product contains an oxidizer (the Proprietary Compound 1 component); care should be taken to avoid exposing this substance to combustible materials.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure or contact to incompatible chemicals and combustible materials.

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## PART IV *Is there any other useful information about this material?*

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## 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The specific toxicology data available for components greater than 1% in concentration are as follows.

### PROPRIETARY COMPOUND 3:

Standard Draize test (Eye-Rabbit) 500 mg/24 hours: Mild

Standard Draize test (Eye-Rabbit) 100 mg: Severe

LDLo (Oral-Human) infant: 2 gm/kg

LD<sub>50</sub> (Oral-Rat) 1650 mg/kg

LD<sub>50</sub> (Oral-Mouse) 1300 mg/kg

LD<sub>50</sub> (Intramuscular-Rat) 30 mg/kg

LD<sub>50</sub> (Intraperitoneal-Mouse) 485 mg/kg

LD<sub>50</sub> (Intravenous-Mouse) 358 mg/kg

LDLo (Subcutaneous-Mouse) 500 mg/kg

LDLo (Oral-Dog) 600 mg/kg

LDLo (Oral-Rabbit) 1 gm/kg

LDLo (Subcutaneous-Rabbit) 200 mg/kg

LDLo (Intravenous-Rabbit) 78 mg/kg

LDLo (Subcutaneous-Guinea Pig) 72 mg/kg

LDLo (Intravenous-Guinea Pig) 220 mg/kg

LDLo (Oral-Mammal-domestic) 1500 mg/kg

Cytogenetic analysis (Hamster-Fibroblast) 400 mg/L

### ALUMINUM SULFATE:

LD<sub>50</sub> (Unreported-Rat) 410 mg/kg

LD<sub>50</sub> (Oral-Mouse) 6207 mg/kg

LD<sub>50</sub> (Intraperitoneal-Mouse) 274 mg/kg

LD<sub>50</sub> (Unreported-Mouse) 520 mg/kg

LD<sub>50</sub> (Unreported-Guinea Pig) 490 mg/kg

TDLo (Oral-Rat) 10138 mg/kg/8 days-continuous: Changes in urine composition; changes in phosphorus

### ALUMINUM SULFATE (continued):

TDLo (Intraperitoneal-Mouse) 800 mg/kg: female 10-13 day(s) after conception: Effects on Newborn: growth statistics,

TDLo (Intratesticular-Rat) 27371 µg/kg: male 1 day(s) pre-mating: spermatogenesis, testes, epididymis, sperm duct

TDLo (Subcutaneous-Mouse) 27371 µg/kg: male 30 day(s) pre-mating: spermatogenesis, testes, epididymis, sperm

Micronucleus Test (Human-Lymphocyte) 20 mg/L  
Sister Chromatid Exchange (Human-Lymphocyte) 20 mg/L

Cytogenetic Analysis (Human-Lymphocyte) 20 mg/L

Cytogenetic Analysis (Oral-Rat) 762 mg/kg/7 days-continuous

Mutation Test Systems (Oral-Rat) 762 mg/kg/7 days-continuous

### PROPRIETARY COMPOUND 5:

LD<sub>50</sub> (Oral-Rat) 1 gm/kg

LD<sub>50</sub> (Oral-Mouse) 1940 mg/kg

LD<sub>50</sub> (Intraperitoneal-Rat) 264 mg/kg

LD<sub>50</sub> (Intraperitoneal-Mouse) 210 mg/kg

LD<sub>50</sub> (Subcutaneous-Rat) 2630 mg/kg

LD<sub>50</sub> (Subcutaneous-Mouse) 823 mg/kg

LD<sub>50</sub> (Intramuscular-Rat) 25 mg/kg

LD<sub>50</sub> (Intravenous-Mouse) 42 mg/kg

LDLo (Oral-Rabbit) 1384 mg/kg

LDLo (Subcutaneous-Dog) 274 mg/kg

### PROPRIETARY COMPOUND 5 (continued):

LDLo (Subcutaneous-Rabbit) 472 mg/kg

LDLo (Subcutaneous-Cat) 249 mg/kg

LDLo (Subcutaneous-Frog) 666 mg/kg

LDLo (Intravenous-Rat) 161 mg/kg

LDLo (Intravenous-Dog) 274 mg/kg

LDLo (Intravenous-Cat) 249 mg/kg

LDLo (Intravenous-Rabbit) 274 mg/kg

LDLo (Intravenous-Guinea Pig) 150 mg/kg

LDLo (Intraarterial-Guinea Pig) 300 mg/kg

TDLo (Intravenous-Woman) 20 mg/kg/1 hour-continuous: dermatitis, changes in calcium

TDLo (Oral-Rat) 2016 mg/kg/30 days-intermittent: Brain and Coverings: recordings from specific areas of CNS; Cardiac: pulse rate; Blood: changes in leukocyte (WBC) count

TDLo (Oral-Rat) 112 gm/kg/20 weeks-continuous: Tumorigenic: equivocal tumorigenic agent; Endocrine: thyroid tumors

TCLo (Inhalation-species unspecified) 43 mg/m<sup>3</sup>/4 hours/17 weeks-intermittent: Blood: change in clotting factors, changes in serum composition (e.g. TP, bilirubin, cholesterol); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: catalyses

Sex Chromosome Loss and Nondisjunction (Saccharomyces cerevisiae) 200 mmol/L

Unscheduled DNA Synthesis (Intraperitoneal-Rat) 2500 umol/µ/kg

Cytogenetic analysis (Rat-Ascites tumor) 3500 mg/kg

## 11. TOXICOLOGICAL INFORMATION (Continued)

### TOXICITY DATA (continued):

#### **PROPRIETARY COMPOUND 4:**

Standard Draize test (Skin-Human): 30 mg/3 days-intermittent: Mild  
Standard Draize test (Eye-Rabbit) 100 mg/30 seconds: Mild  
TDLo (Oral-infant) 1260 mg/kg: Lungs, Thorax, or Respiration: other changes; urine volume increased; changes in sodium  
TDLo (Oral-Man) 20 mg/kg/5 days-intermittent: nausea or vomiting; changes in potassium; metabolic acidosis  
LD<sub>50</sub> (Oral-Rat) 4220 mg/kg  
LD<sub>50</sub> (Oral-Mouse) 3360 mg/kg

#### **PROPRIETARY COMPOUND 4 (continued):**

TCLo (Inhalation-Rat) 77200 µg/kg/17 weeks: Cardiac: other changes; Blood: changes in serum composition; changes in sodium  
TDLo (Intraperitoneal-Rat) 40 mg/kg; female 7 day(s) after conception: Reproductive: Specific Developmental Abnormalities: other developmental abnormalities

#### **PROPRIETARY COMPOUND 1:**

LD<sub>50</sub> (Oral-Rat) 802 mg/kg

#### **PROPRIETARY COMPOUND 2:**

Mutation in Microorganisms (not otherwise specified) 1000 ppm

#### **PROPRIETARY COMPOUND 7:**

Skin (Irritancy-Rabbit) 500 mg/ 24 hours; moderate  
Eye (Irritancy-Rabbit) 1900 mg  
Eye (Irritancy-Rabbit) 100 mg/ 24 hours; moderate  
LD<sub>50</sub> (Oral-Mouse) 30 mg/kg  
LD<sub>50</sub> (Intraperitoneal-Rat) 397 mg/kg; convulsions  
LD<sub>50</sub> (Intraperitoneal-Mouse) 330 mg/kg; acute renal failure  
LD<sub>50</sub> (Intraperitoneal-Mouse) 250 mg/kg

**SUSPECTED CANCER AGENT:** This product's components are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, and CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

**IRRITANCY OF PRODUCT:** This product is mildly to moderately irritating to contaminated tissue.

**SENSITIZATION TO THE PRODUCT:** The Proprietary Compound 1 component is a skin sensitizer; prolonged or repeated contact with this product may result in the development of dermatitis, rashes, and other allergic skin reactions.

**REPRODUCTIVE TOXICITY INFORMATION:** Listed below is information concerning the effects of this product and its components on the human reproductive system.

**Mutagenicity:** This product is not reported to produce mutagenic effects in humans. Human mutation data are available for the Proprietary Compound 6 component of this product; these data were obtained during clinical studies on specific human tissues exposed to high doses of this product. Other mutation data are available for the Proprietary Compound 5 and the Proprietary Compound 2 components of this product; these data were obtained during clinical studies on specific animal tissues or micro-organisms exposed to high doses of this product.

**Embryotoxicity:** This product is not reported to produce embryotoxic effects in humans.

**Teratogenicity:** This product is not reported to cause teratogenic effects in humans. Clinical studies on test animals exposed to relatively high doses of the Proprietary Compound 4 component of this product provided teratogenic data.

**Reproductive Toxicity:** This product is not reported to cause reproductive effects in humans.

*A **mutagen** is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An **embryotoxin** is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A **teratogen** is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A **reproductive toxin** is any substance which interferes in any way with the reproductive process.*

**ACGIH BIOLOGICAL EXPOSURE INDICES:** Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for the components of this product.

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## 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

**ENVIRONMENTAL STABILITY:** The components of this material will react with other substances or be degraded over time into other inorganic compounds. The following environmental data are available for the components of this product:

**PROPRIETARY COMPOUND 3:** Water solubility: 28.3% g/100 mL (0°C), 37.840 lb/100 lb (70°F). This compound can destroy food chain organisms and gamefish in natural waters. Threshold concentrations for fish = 0.5 ppm.

**PROPRIETARY COMPOUND 6:** Biological Half-Life: The mean plasma half-life of aluminum after iv administration in dogs is approximately 4.5 hr. Bioconcentration: A study was undertaken to assess the possibility of aluminum bioaccumulation (in rainbow trout). Trout tissues, plankton, and water were analyzed for total aluminum concentration.

**PROPRIETARY COMPOUND 5:** Water solubility = 74.5 g/100 cc at 20 °C, 159g/ 100 cc at 100°C. This product does not biodegrade or bioaccumulate.

**PROPRIETARY COMPOUND 7:** Water solubility ≈ 103 g/mL; Water solubility ≅ 1000g/L (20°C), Biological Oxygen Demand = 20 mg O<sub>2</sub>/g product, Chemical Oxygen Demand = 575 mg O<sub>2</sub>/g product.

**PROPRIETARY COMPOUND 1:** Water Solubility = 4.7 g/100 cc water.

## 12. ECOLOGICAL INFORMATION (Continued)

EFFECT OF MATERIAL ON PLANTS or ANIMALS: This product may be harmful or fatal to contaminated plant and animal life (especially if large quantities are released). Refer to Section 11 (Toxicological Information) for additional information on effects on animals. Additional plant toxicity data are available for the components of this product, as follows:

**PROPRIETARY COMPOUND 3:** Acute Hazard Level Threshold: For Vegetables and other crops 750 ppm.

EFFECT OF CHEMICAL ON AQUATIC LIFE: This product can be harmful or fatal to contaminated aquatic plant and animal life. Additional aquatic toxicity data are available for the components of this product, as follows:

**PROPRIETARY COMPOUND 3:**

LC<sub>50</sub> (*Daphnia magna*) 24 hours = 202 mg/L  
LC<sub>50</sub> (*Daphnia magna*) 48 hours = 161 mg/L  
LC<sub>50</sub> (*Daphnia magna*) 72 hours = 67 mg/L  
LC<sub>50</sub> (*Daphnia magna*) 96 hours = 50 mg/L  
LC<sub>50</sub> (*Daphnia magna*) 100 hours = 139 mg/L  
LC<sub>50</sub> (*Lymnaea* sp. Snail egg) 24 hours = 241 mg/L  
LC<sub>50</sub> (*Lymnaea* sp. Snail egg) 48 hours = 173 mg/L  
LC<sub>50</sub> (*Lymnaea* sp. Snail egg) 72 hours = 73 mg/L  
LC<sub>50</sub> (*Lymnaea* sp. Snail egg) 96 hours = 70 mg/L  
LC<sub>50</sub> (*Lepomis macrochirus*) 24-96 hours = 725 mg/L  
LC<sub>50</sub> (*Carassius carassius*) 24 hours = 640 mg/L

**PROPRIETARY COMPOUND 6:**

LC<sub>50</sub> (*Salmo gairdneri*, Rainbow trout) = 0.05-0.5 mg/L; 24 hours  
LC<sub>60</sub> (water fleas) = 6 mg/L; 24 hours  
LC (Brook trout; fry) = 0.5 - 0.2 mg/L; 13 -15 days  
LC (Brook trout; larva) = 0.029 - 0.35 mg/L; 60 days  
NOEL (Brook trout; juvenile) = 0.088 - 0.168 mg/L; 30 days  
LC (Lake Whitefish; fry) = 0.1 mg/L; 12 days  
LC<sub>60</sub> (Walleyes) = 0.5 mg/L; 4 days

**PROPRIETARY COMPOUND 7:**

LC<sub>50</sub> (*Leuciscus Idus*) > 500 mg/L/ 96 hours  
LC<sub>50</sub> (Algae) = 10-100 mg/L/ 72 hours  
LC<sub>50</sub> (*Daphnae*) > 100 mg/L/ 24 hours

SPECIFIC GERMAN ENVIRONMENTAL LISTINGS:

Aquatic Hazard Class (WGK): The components of this product have specific Hazard Classes, as denoted Below:

**PROPRIETARY COMPOUND 6:** WGK Class 1  
**PROPRIETARY COMPOUND 3:** WGK Class 1  
**PROPRIETARY COMPOUND 4:** WGK Class 0

**PROPRIETARY COMPOUND 5:** WGK Class 1  
**PROPRIETARY COMPOUND 7:** WGK Class 2  
**PROPRIETARY COMPOUND 1:** WGK Class 1  
**PROPRIETARY COMPOUND 2:** WGK Class 1

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## 13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada and its Provinces, as well as those applicable to the EC Member States or Australia. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

U.S. EPA WASTE NUMBER: Not applicable.

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## 14. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Not applicable.

HAZARD CLASS NUMBER and DESCRIPTION: Not applicable.

UN IDENTIFICATION NUMBER: Not applicable.

PACKING GROUP: Not applicable.

DOT LABEL(S) REQUIRED: Not applicable.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER, 1996: Not applicable.

MARINE POLLUTANT: No component of this product is a marine pollutant, as designated by the US DOT, per Appendix B to 49 CFR 172.101.

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This material is not considered as dangerous goods, per regulations of Transport Canada.

INTERNATIONAL MARITIME ORGANIZATION (IMO): This product is not regulated as dangerous goods by the IMO.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This material is not considered by the United Nations Economic Commission for Europe to be dangerous goods.

AUSTRALIAN FEDERAL OFFICE OF ROAD SAFETY CODE FOR THE TRANSPORTATION OF DANGEROUS GOODS BY ROAD OR RAIL: This material is not classified as dangerous goods under Australian transportation standards.

## 15. REGULATORY INFORMATION

### ADDITIONAL U.S. REGULATIONS:

**U.S. SARA REPORTING REQUIREMENTS:** The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, and are listed as follows:

CHEMICAL NAME	SARA 302 (40 CFR 355, Appendix A)	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)
Proprietary Compound 3	NO	YES	NO
Proprietary Compound 6	NO	YES	NO

**U.S. SARA THRESHOLD PLANNING QUANTITY:** There are no specific Threshold Planning Quantities for any component of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

**U.S. CERCLA REPORTABLE QUANTITY (RQ):** Proprietary Compound 3 = 5000 lb (2270 kg); Aluminum Salt = 5000 lb (2270 kg)

**U.S. TSCA INVENTORY STATUS:** The components of this product are listed on the TSCA Inventory.

**OTHER U.S. FEDERAL REGULATIONS:** The regulations of the Federal Insecticide, Fungicide, and Rodenticide Act are applicable to this product.

**U.S. STATE REGULATORY INFORMATION:** Components of this product are covered under specific State regulations, as denoted below:

**Alaska - Designated Toxic and Hazardous Substances:** Proprietary Compound 3 (fume).

**California - Permissible Exposure Limits for Chemical Contaminants:** Proprietary Compound 3.

**Florida - Substance List:** Proprietary Compound 3.

**Illinois - Toxic Substance List:** Proprietary Compound 3 (fume).

**Kansas - Section 302/313 List:** No.

**Massachusetts - Substance List:** Proprietary Compound 3.

**Michigan - Critical Materials Register:** No.

**Minnesota - List of Hazardous Substances:** Proprietary Compound 3.

**Missouri - Employer Information/Toxic Substance List:** Proprietary Compound 3, Aluminum Salt.

**New Jersey - Right to Know Hazardous Substance List:** Proprietary Compound 3, Aluminum Salt.

**North Dakota - List of Hazardous Chemicals, Reportable Quantities:** Proprietary Compound 3, Aluminum Salt.

**Pennsylvania - Hazardous Substance List:** Proprietary Compound 3, Aluminum Salt.

**Rhode Island - Hazardous Substance List:** No.

**Texas - Hazardous Substance List:** No.

**West Virginia - Hazardous Substance List:** No.

**Wisconsin - Toxic and Hazardous Substances:** No.

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):** No component of this product is on the California Proposition 65 lists.

**ANSI LABELING (Z129.1):** **WARNING!** MAY BE HARMFUL OR FATAL IF SWALLOWED. CAUSES SKIN AND EYE IRRITATION. HARMFUL IF INHALED. REPEATED CONTACT CAN RESULT IN ALLERGIC SKIN REACTIONS. CONTAINS OXIDIZING SUBSTANCES; PROLONGED CONTACT WITH COMBUSTIBLE MATERIALS MAY CAUSE FIRE. OPENING SEALED CONTAINERS OF WET PRODUCT MAY RESULT IN INHALATION EXPOSURES TO TOXIC GASES. SEALED CONTAINERS OF WET PRODUCT MAY RUPTURE. Do not taste or swallow. Do not get on skin or in eyes. Avoid breathing dusts or particulates. Keep container closed. Do not seal containers in which wet product has been placed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves, goggles, suitable body protection, and NIOSH-approved respiratory protection, as appropriate. Keep from contact with clothing and other combustible materials.

**FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention, if necessary. **IN CASE OF FIRE:** Use water fog, dry chemical, CO<sub>2</sub>, or "alcohol" foam. **IN CASE OF SPILL:** Sweep-up or vacuum spilled material. Place residue in suitable container. Consult Material Safety Data Sheet for additional information.

### ADDITIONAL CANADIAN REGULATIONS:

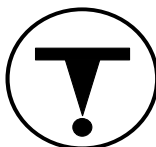
**CANADIAN DSL/NDL INVENTORY STATUS:** The components of this product are listed on the DSL/NDL Inventory.

**OTHER CANADIAN REGULATIONS:** The labeling and use requirements of the Pest Control Products Act.

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:** The components of this product are not on the CEPA Priorities Substances Lists.

**CANADIAN WHMIS SYMBOLS:**

**Class D2B:** Other Toxic Effects (Skin sensitization)



## 16. OTHER INFORMATION

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. IPS-CareFree Enzymes, Inc. assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, IPS-CareFree Enzymes, Inc. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.